COVID-19 Workspace Safety Plan – Lab Specific

Use of this template: All light italicized grey font are instructional and must be removed before final copy is approved.

This workspace safety plan will assist Principal Investigators who wish to continue or resume research activities in their lab. This plan will include a review of activities to be undertaken in the lab to ensure effective controls are in place to prevent the spread of COVID-19. Principal Investigators are responsible for ensuring this document reflects current government guidance and notices which can be found, along with information about UBC’s response to the pandemic at https://covid19.ubc.ca/.

This plan must be reviewed by your Local Safety Team, and signed by your Unit Head/Director. Once complete, the plan can be submitted with your online application to return to research.

Resources to Consult

The following guidance documents and resources were used in the development of this plan:

- Preventing Exposure
- Personal Protective Equipment
- Physical Distancing Guidelines
- Reporting COVID-19 Exposure
- Communications Resources
- UBC Research Resumption webpage
- WorksafeBC

Section #1: Lab information

Department
Faculty
Building(s)
Lab(s)/workspace(s)

Mechanical Engineering
Applied Science
Fred Kaiser Building
KAIS 1190 (Machine Shop)/ Operation area close to Triumph lathes

Introduction to Your Lab

Provide a brief overview of your lab(s) and other used/shared facilities, current size of your group and your general research area (1-2 sentences).

2 students [redacted] will need to use the Triumph lathes in the machine shop (KAIS 1190). The layout of the area close to the Triumph lathes in the machine shop is shown in Figure 1. The students need to fix the cutting tool, workpiece and force sensor on the lathe, then perform the turning operation and record the sensor data at the same time. After the tests, the students will collect the machined chip. The tests are based on a project in collaboration with Pratt & Whitney Canada.
Section #2 - Risk Assessment

1. Lab/workspace Occupancy (under proposed COVID-19 operations)
List the number of people that will be present in your lab/workspace at the same time. List this by
every room/lab/workspace you occupy.

There will be 2 students working on the Triumph lathe #1 in the machine shop (KAIS 1190). A machinist
(Benny Nimmervoll, Roland Gershorek, or Erik Wilson) will be present to supervise the tests. 1 student
will operate the machine, and the other student will work with a computer at a table at least 2 meters
away to record the sensor data (see green oval on diagram below)

Figure 1 Layout of Triumph Lathes Area in Machine Shop.

Confirm that you have discussed each employee’s comfort level with returning to work and have
addressed any concerns, or will require further assistance in doing so. Any worker (staff, students,
faculty, post docs, research associates, technicians and other research personnel) who has concerns
about returning to work on campus can request an exemption to his/her supervisor.

I have explained the safety rules to all employees in my laboratory through online meetings. I have
explained that any worker who has concerns about returning to the laboratory can request an
exemption to the supervisor. They will work from home unless they have scheduled experimental activities.

We do not typically have researchers working in this area, but 2 people represents 22% of normal operations for my group. These are not the same students who will be returning to research in KAIS 1146.

- Provide actual numbers and percentage of previous i.e. 1/3 of ‘normal’ operations
- Outline who remains working remotely and who you’ve requested back to work and why

### 2. Hazard Identification
Describe what hazards exist in your lab/workspace; both research-related (chemicals, heavy machinery) and COVID-19-related (areas that require closer personal interaction, equipment/instruments that cannot maintain social distancing i.e. that require >1 person to operate)

The machine shop contains powered machinery, welding and hoisting equipment and compressed gases, chemicals and auxiliary equipment needed for machine operation and maintenance. Novice users may be present. No infectious materials are deliberately brought into and handled in the machine shop.

### 3. Employee (HQP, research staff, other) Input/Involvement
Detail how you have involved frontline workers (HQP and research staff) and Joint Occupational Health and Safety Committees (JOHSC) and/or Local Safety Teams (LST) in identifying risks and protocols as part of this plan.

The Shop Lecturer is Markus Fengler who will give the orientations. Markus is Faculty Association representative on the APSC JOHSC and is co-chair of the MECH LST. Roland Genshorek is the technical staff representative on the MECH LST. The tests are to be conducted only with the permission of the Shop Lecturer.

Describe how you will publish your plan (online, hardcopy) and otherwise communicate workplace health measures to employees. Guidelines from SRS are available here: [https://srs.ubc.ca/covid-19/health-safety-covid-19/working-safely/](https://srs.ubc.ca/covid-19/health-safety-covid-19/working-safely/)

- Shop personnel and students will have access to electronic versions of the plan and it will be posted on the shop door.
- Safety posters recommended by UBC such as 2m social distance, cover your cough, hand wash.

- Your plan must be approved by your Head/Director
- Final plans will be posted to UBC’s COVID-19 Safety Plan website. An alert noting the plan availability and link to this final posting must be included on the main root site of your department or faculty.

### Section #3 – Hazard Elimination or Physical Distancing
Students will maintain 2m distance at all times.

The students will only be using one specific engine lathe and only one student will be operating the machine. Other equipment and areas in the shop will be off limits. The student operating the lathe will receive an orientation to the machine by shop personnel, maintaining 2 m distance at all times, and will maintain all applicable OHS regulations. The second student will work at the bench >2m from the lathe.

Both students have completed the standard basic shop orientation. The students will only operate the set-up when under the supervision of shop personnel. 2 meter distances between all persons will be maintained at all times.

The PI is providing face masks that the students can wear while in the machine shop. Information on the limitations of non-medical masks will be provided.

The detailed test procedure and the period will be provided to shop personnel for approval prior to any experimentation. Shop personnel will need to approve any changes in experimental set-up before the lathe is operated.

A sign-in and sign-out sheet will be implemented.

4. Scheduling
For those required or wanting to resume work at UBC, detail how you are rescheduling employees (e.g. shifted start/end times) in order to limit contact intensity at any given time at UBC.

Discuss your working alone procedures and how they will be adapted for this safety plan. Also describe how you will track those entering/leaving work i.e. sign in/sign out process

The students will arrange times for experiments with the shop personnel and will never work alone.

5. Occupancy limits, floor space, and traffic flows
APSC recognizes that labs are dynamic environments and it may be challenging to adhere to physical distancing guidelines. Nonetheless, controls must be in place to keep personnel spaced at least 2m apart at all times. Clear communication of this to employees, monitoring of implementation, in addition to physical controls (signage) are needed.

As such: Using floor plans and/or photographs of your lab/workspace:
1) Identify and list the rooms and maximum occupancy for each workspace/area;
2) Illustrate a 2 meter radius circle around stationary workspaces/benches/instruments and common areas or equivalent approach to social distancing; and
3) Illustrate one-way directional traffic flows
Lab space: Kaiser 1190,
Maximum Occupancy due to Covid-19 restrictions: 7 persons
The layout of the machine shop close to the Triumph lathes is shown in Figure 1. The hatched area in front of the lathe is roughly 1 m x 1.8m. The traffic direction for the students is shown. As there are only two students working, they can use the same entrance and exit door as long as they maintain 2m distance from each other and anyone else.

Section 4 – Engineering Controls

6. Cleaning and Hygiene
Detail the cleaning and hygiene regimen required to be completed by HQP, research staff and the PIs for common areas/surfaces (Custodial has limitations on cleaning frequency, etc.).

Outline specific cleaning processes and schedule for high-touch equipment, specialized/sensitive equipment or other unique circumstances to your lab/workspace. Detail how and what types of cleaning products and disposal options you will provide. If possible, include cleaning stations/infrastructure on your lab photos/plan.

Students will also use the machine shop handwashing area before and after each experimental session and any time they re-enter the space.

The only equipment that the students will handle will be dedicated to the experiment.

Instruments and tools that are to be handled by more than one person will be cleaned between users.

Students will check each other’s sanitization work, clearly mark all items that have been handled but not sanitized (because they will be handled by the same person at some later point) and sign off after the experiments are finished.

Disinfectant wipes will be provided by the Department.

7. Equipment Removal/Sanitation
Detail your appropriate removal of unnecessary tools/equipment/access to areas and/or adequate sanitation for items that must be shared that may elevate risk of transmission, both research-related (i.e. instruments, tools) and general (i.e. coffee makers in break rooms)

The only equipment that the students will handle will be dedicated to the experiment.

8. Safety Infrastructure Requests (Partitions, Plexiglass installation)
Describe any needs for safety infrastructure i.e. physical barriers, plexiglass installation required for your lab/workspace and if possible include them on your photos/room plan.
## Section 5 – Administrative Controls

### 9. Communication & Training Strategy for Employees

Describe how you (the PI) have or will communicate the risk of exposure to COVID-19 in the workplace to your HQP/research staff/other employees and the safety controls in place to reduce such risk.

Detail how you will ensure that all employees successfully complete the Preventing COVID-19 Infection in the Workplace online training and orientation to your specific safety plan.

PI (Xiaoliang Jin), shop personnel and all students will complete the Preventing COVID-19 Infection in the Workplace online training when available.

Workers who are experiencing "flu like" symptoms should remain home. This information has been notified to the two students.

### 10. Signage

Detail the type of signage you will utilize and how it will be placed (e.g. floor decals denoting one-way walkways and doors, ‘cleanliness state’ of equipment/instruments, hand-washing guidance). See WorksafeBC for signage guidelines and templates.

Handwashing/sanitizing signage is already in the machine shop.

The limitations of non-medical masks will be notified to all the laboratory members in online weekly meetings. Signs with this information will be printed on June 6 and available in the Mech office. The signs will be put at the entrance door of machine shop.

### 11. Emergency Procedures & Reporting

PIs must ensure that all employees entering the lab should be aware of the Building Emergency Response Plan (BERP) and have access to it. If applicable, detail your strategy to amend your lab’s emergency response plan procedures during COVID-19.

Emergency response is already covered in the basic orientation. Students will never work alone. Shop personnel will always be present whenever students are working. Campus Emergency Services (OFA, Campus Security, VFRS, RCMP, 9-1-1 ) are assumed to be active.


### 12. Monitoring

Describe how you will monitor your workplace (supervisor, departmental safety representative, other) and update your plans as needed; detail how employees can raise safety concerns (e.g. via the JOHSC or Supervisor).
PI Xiaoliang Jin will hold primary responsibility for safety and actions of the students and the Shop Lecturer will hold responsibility for safety of other shop personnel. The PI and Shop Lecturer will discuss for possible update on the plan if needed. Shop personnel and students can raise safety concerns immediately. Shop personnel have authority over the students to direct them and have the authority to cease activity and protect themselves from harm any time they feel is necessary without repercussions.

Section #6 – Personal Protective Equipment (PPE)

13. Personal Protective Equipment
UBC has a central process for purchasing PPE. Describe what PPE you will require for your lab.

<table>
<thead>
<tr>
<th>#</th>
<th>Type of PPE</th>
<th>Activity and PPE Use Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Disposable face masks</td>
<td>Precaution to avoid receiving and transmitting COVID 19 from mouth and nose. (Purchased already)</td>
</tr>
<tr>
<td>2</td>
<td>Disinfected sprays</td>
<td>To sanitize surfaces used by individuals. (Purchased already)</td>
</tr>
<tr>
<td>3</td>
<td>Sanitizing wet wipes</td>
<td>To clean hands. (Purchased already)</td>
</tr>
<tr>
<td>4</td>
<td>Approved eye protection</td>
<td>Required by OHS Regulations; each student will retain their own marked pair so that sanitization is not required</td>
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</tbody>
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Acknowledgement
I confirm that this Safety Plan has been shared with all workers (HQP, research personnel, etc.) who will be accessing this space both through email and will be made available as a shared document. Workers can either provide a signature or email confirmation that they have received, read, and understood the contents of the plan.

Date       June 5, 2020
Name       Xiaoliang Jin
Title      Assistant Professor

Department/School Head/Director Approval
Appendix

Please attach any maps, pictures, departmental policies or risk assessments applicable UBC Guidance documents, where necessary, and other regulatory requirements referred to in document.

APSC specifically requests photographs of your current lab layout, as well as your proposed usage layout i.e. where HQP will work, what areas will be closed off, where signage will be placed, etc. If floor plans of your lab/shared workspace is available, please append these as well.